

CLAIMS:

1. A reclining mechanism having a construction in which a plurality of pawls are received in a pair of housings that are relatively rotatably connected to each other, each of these pawls being prevented from rotating relative to one of said housings and being engageable with a ratchet formed in the other of said housings, each of said pawls being moved by a spring force from a free position in which the relative rotation of said housings is permitted, to a locking position in which the relative rotation of said housings is prevented by virtue of the engagement of the pawl and said ratchet, wherein at least one of the pawls is moved prior to the other of the pawls when each of said pawls moves from said free position to said locking position.
2. The reclining mechanism as defined in claim 1, wherein an operating cam that is operated by said spring force is received in the housings, and wherein the moving timing of each of the pawls is defined by the shape of cam portions of said operating cam.
3. A reclining mechanism having a construction in which a plurality of pawls and an operating cam are respectively received in a pair of housings that are relatively rotatably connected to each other, each of said pawls being prevented from rotating relative to one of said housings and having a toothed portion that is engageable with a ratchet formed in the other of the housings and a contact portion that is positioned opposite to the toothed portion, said operating cam having cam portions that can respectively separately interact with said contact portions of said respective pawls, said respective cam portions separately interacting with said contact portions of said respective pawls when the operating cam is operated by a predetermined spring force so that each of the pawls is moved from a free position in which the relative rotation of said housings is permitted to a locking position in which the relative rotation of said housings is prevented by virtue of engagement of said toothed portion and said ratchet, wherein said respective cam portions of said operating cam are shaped such that at least one of the pawls is moved prior to the other of the pawls.
4. The reclining mechanism as defined in claim 3, wherein each of said cam portions of said operating cam is shaped such that when each of said pawls is moved from the free position to the locking position, the other of the pawls begin to move so as to engage the toothed portion with the ratchet before said toothed portion of one of the pawls completely

engages the ratchet.

5. The reclining mechanism as defined in claim 3, wherein when one of the pawls first begins to move by operating said operating cam, a reactive force from one of said pawls is received by a guide member operationally guiding said operating cam, and wherein the other of the pawls begin to move before the completion of the movement of one of the pawls so that a reactive force from the other of the pawls is received by one of the pawls.

6. A reclining mechanism having a construction in which a plurality of slide pawls and an operating cam are respectively received in a pair of housings that are relatively rotatably connected to each other, each of said slide pawls being radially slidable while prevented from rotating relative to one of said housings and having a toothed portion that is engageable with a ratchet formed in the other of the housings and a contact portion that is positioned opposite to the toothed portion, said operating cam having cam portions that can respectively separately interact with said contact portions of said respective slide pawls, said respective cam portions separately interacting with said contact portions of said respective slide pawls when the operating cam is operated by a predetermined spring force so that each of the slide pawls is slid from a free position in which the relative rotation of said housings is permitted to a locking position in which the relative rotation of said housings is prevented by virtue of engagement of said toothed portion and said ratchet, wherein said respective cam portions of said operating cam are shaped such that at least one of the slide pawls is moved prior to the other of the slide pawls.

7. The reclining mechanism as defined in claim 6, wherein said operating cam is a sliding-type cam, and wherein the movement of one of the slide pawls is performed by utilizing a contacting portion of a side surface opposite to said cam portion of said operating cam interacting with said slide pawl contact portion and a guide groove wall surface of said housing slidably guiding said operating cam as a supporting point.

8. The reclining mechanism as defined in claim 6, wherein said operating cam is a rotating-type cam, and wherein the movement of one of the slide pawls by utilizing a contacting portion of said operating cam and inner circumferential surfaces of bearing openings of said housings rotatably supporting the operating cam as a supporting point.

9. The reclining mechanism as defined in claim 6, wherein each of said cam portions of said operating cam is shaped such that when each of said slide pawls is moved from the free position to the locking position, the other of the pawls begin to move so as to engage the toothed portion with the ratchet before said toothed portion of one of the slide pawls completely engages the ratchet.

10. The reclining mechanism as defined in claim 6, wherein when one of the slide pawls first begins to move by operating said operating cam, a reactive force from one of said slide pawls is received by a guide member operationally guiding said operating cam, and wherein the other of the slide pawls begin to move before the completion of the movement of one of the slide pawls so that a reactive force from the other of the slide pawls is mutually received by the slide pawls.

11. A reclining mechanism having a construction in which a plurality of pawls and an operating cam are respectively received in a pair of housings that are relatively rotatably connected to each other, each of said pawls being prevented from rotating relative to one of said housings and having a toothed portion that is engageable with a ratchet formed in the other of the housings and a contact portion that is positioned opposite to the toothed portion, said operating cam having cam portions that can respectively separately interact with said contact portions of said respective pawls, said respective cam portions separately interacting with said contact portions of said respective pawls when the operating cam is operated by a predetermined spring force so that each of the pawls is moved from a free position in which the relative rotation of said housings is permitted, to a locking position in which the relative rotation of said housings is prevented by virtue of engagement of said toothed portion and said ratchet, wherein said respective cam portions of said operating cam are shaped such that the movement start timing of one of the pawls precedes the movement start timing of the other of the pawls.

12. The reclining mechanism as defined in claim 11, wherein each of said cam portions of said operating cam is shaped such that when each of said pawls is moved from the free position to the locking position, the other of the pawls timely begin to move so as to engage the toothed portion with the ratchet before said toothed portion of one of the pawls

completely engages the ratchet.

13. The reclining mechanism as defined in claim 11, wherein when one of the pawls first begins to move by operating said operating cam, a reactive force from one of said pawls is received by a guide member operationally guiding said operating cam, and wherein the other of the pawls begins to move before the completion of the movement of one of the pawls so that a reactive force from the other of the pawls is mutually received by the pawls.

14. A locking method of a reclining mechanism constructed such that in a pair of housings that are relatively rotatably connected to each other, a plurality of pawls provided in one of the housings are radially moved by operating an operating cam due to a predetermined spring force so as to engage a ratchet formed in the other of the housings, wherein when each of said pawls is moved by virtue of operation of said operating cam from a free position in which the relative rotation of said housings is permitted, to a locking position in which the relative rotation of said housings is prevented by virtue of the engagement of the pawl and said ratchet, said operating cam moves one of the pawls by utilizing a contacting portion of said operating cam and a guide member operationally guiding the operating cam as a supporting point, and wherein said operating cam acts on the other of the pawls before a toothed portion of one of the pawls completely engages the ratchet so that the other of the pawls begin to move toward the locking position in which a toothed portion engages the ratchet by utilizing a contacting portion of the operating cam and one of the pawls as the supporting point.